

Frozen Tube



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D6008-180
Job Sheet 193364



Part No: D6008-180

Job Qty: 14 pcs

Part Name: Crosstube Extrusion



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 4/12/19

Job Tracking No:

Due Date: 4/19/19

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG REV A

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Run Hrs	Workcenter/Supplier	Sign-off
100	Purchasing	14 pcs	APR 12 2019	4/19/19	0.00	0.00	Purchasing - 1	
							Purchasing - 2	
							Purchasing - 3	DP APR 12 2019
110	Packaging 2-1 - Receive -	14 pcs		4/19/19	0.00	0.00	Packaging 2 - 1 - B4B	
							Packaging 2 - 2 - B4B	
							Packaging 2 - 3 - B4B	
							Packaging 2 - 5 - B4B	
							Packaging 2 - 4 - B4B	
							Packaging 2 - 6 - B4B	
							Packaging 2 - 7 - B4B	
							Packaging 2 - 8 - B4B	
							Packaging 2 - 9 - B4B	
							Packaging 2 - 10 - B4B	
							Packaging 2 - 11 - B4B	
							Packaging 2 - 12 - B4B	
							Packaging 2 - 13 - B4B	DP APR 12 2019
							Packaging 2 - 14 - B4B	
							Packaging 2 - 15 - B4B	
							Packaging 2 - 16 - B4B	
							Packaging 2 - 17 - B4B	
							Packaging 2 - 18 - B4B	
							Packaging 2 - 19 - B4B	
							Packaging 2 - 20 - B4B	
							Packaging 2 - 21 - B4B	
							Packaging 2 - 22 - B4B	
							Packaging 2 - 23 - B4B	
							Packaging 2 - 24 - B4B	
							Packaging 2 - 25 - B4B	
							Packaging 2 - 26 - B4B	
							Packaging 2 - 27 - B4B	
							Packaging 2 - 28 - B4B	



Container No: S172172



Part: D6008-180

Job No: 193364

Serial No/Batch: S172172

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL : 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 04/12/19

				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
120	QC 18	14 pcs	4/19/19	0.00 0.00	QC 18 - 12
					QC 18 - 14
					QC 18 - 22
					QC 18 - 25
					QC 18 - 48
					QC 18 - 58
					QC 18 - 61
					QC 18 - 9
					DAS 51 J-89
140	Packaging 3-1 - Stock - B4B	14 pcs	4/19/19	0.00 0.00	Packaging 3 - 1 - B4B
					Packaging 3 - 2 - B4B
					Packaging 3 - 3 - B4B
					Packaging 3 - 4 - B4B
					Packaging 3 - 5 - B4B
					Packaging 3 - 6 - B4B
					Packaging 3 - 7 - B4B
					Packaging 3 - 8 - B4B
					Packaging 3 - 9 - B4B
					Packaging 3 - 10 - B4B
					Packaging 3 - 11 - B4B
					Packaging 3 - 12 - B4B
					Packaging 3 - 13 - B4B
					Packaging 3 - 14 - B4B
					Packaging 3 - 15 - B4B
					Packaging 3 - 16 - B4B
					Packaging 3 - 17 - B4B
					Packaging 3 - 18 - B4B
					Packaging 3 - 19 - B4B
					Packaging 3 - 20 - B4B
					Packaging 3 - 21 - B4B
					Packaging 3 - 22 - B4B
					Packaging 3 - 23 - B4B
					Packaging 3 - 24 - B4B
					Packaging 3 - 25 - B4B
					Packaging 3 - 26 - B4B
					Packaging 3 - 27 - B4B
					Packaging 3 - 28 - B4B
					Packaging 3 - 29 - B4B
					Packaging 3 - 30 - B4B
					Packaging 3 - 31 - B4B
					Packaging 3 - 32 - B4B
					Packaging 3 - 33 - B4B
					Packaging 3 - 34 - B4B
					Packaging 3 - 35 - B4B
					Packaging 3 - 36 - B4B
150	QC 21 - SA	14 pcs	4/19/19	0.00 0.00	QC 21 - SA - 21
					QC 21 - SA - 70
					QC 21 - SA - 53
					DAS 21 9-89 MAY 09 2019

Part Op **100** - Purchasing (Purchasing) Issue P/O: _____ a) Order as per Dwg D6008 b) Material: I 7075-T6/T6511
 Descriptions: (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube e) Material cert's is required
110 - Packaging2 (Receive & Inspect for Damage & Mat'l Certs) Ensure material certification is attached
120 - QC18 (QC18 In-Coming Inspection Material) Ensure Material certification comply to Dwg

4/12/2019

[Dart Hawkesbury] Job Sheet - Lavoie, Chantal

140 - Packaging3-2 (Identify as per dwg & Stock Location: ~~6014~~ HALL)
150 - QC21 (QC21- Final Inspection - Work Order Release)

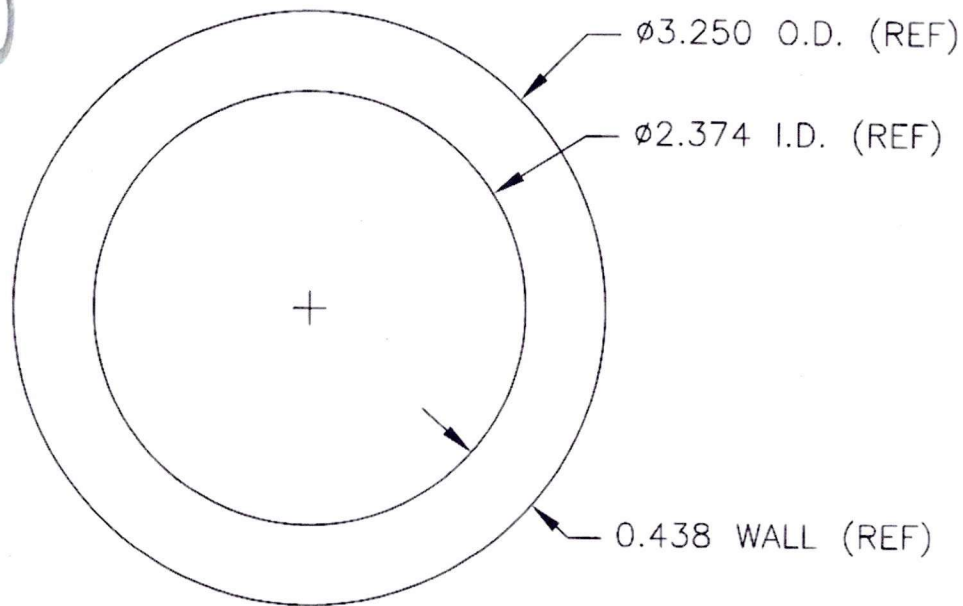
Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D6008-180P	Crosstube Extrusion	14 pcs (1 ea)	100-Purchasing	SA2171
Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6008-180P	14	0	0
Part Specifications				
Specifications could not be found.				

Plex 4/12/19 11:32 AM dart.lavoie.chantal

DART

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *[Signature]*

NOTES

- 1) D6008-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 180" LONG TUBE: D6008-180

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (± 0.016 INCLUDING OVALITY)
WALL: ± 0.020 MEAN (± 0.044 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO039459

Supplier: ALU001-VU
Aluminiumwerk Unna AG
630-3033 SOUTH PARKER RD
AURORA, CO 80014 USA
Phone: 303 755 5672
Fax: 303 755 5936

PO No: PO039459

PO Date: 3/29/18

Due Date: 8/17/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
APR 04 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items

Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	D6008-180P			Crosstube Extrusion EXTRUDE AS PER DWG D6008 REV. A JOB NO: 475204 193364	Firmed X14	8/17/18	14 pcs	0 pcs	14 pcs	\$1,084.00/pcs	\$15,176.00
Grand Total:											\$15,176.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 4/3/18 11:54 AM dart.lavoie.chantal

Si payable pas est intégrée → prob.

Received Physically Feb 2019.

Packing List Aluminiumwerk Unna AG

Page 1 of 1



Order		Article		Box marking									
Commission-No.:	71013	Outer Diameter (Inch):	3,250	DART AEROSPACE P.O. 039459/ D6008-180 MADE IN GERMANY DEST.: HAWKESBURY ONT, CANADA									
Item No.:	100	Inner Diameter (Inch):	2,374										
Customer PO:	PO039459	Wall (Inch):	0,438										
Customer:	Dart Aerospace	Length (Feet):	15,00										
Date:	17.01.2019	Drawing:	82,55 x 11,13										
Comments:	We hereby declare, that the wooden packing material are totally free from bark and apparently free from live plant pests.												
Box No.	Boxdimensions				Total number of pieces and weights				Cast/Heat-Groups in the box				
	Length (Inch)	Width (Inch)	Height (Inch)	Volume (cbm)	Pieces	Net lbs	Tare lbs	Gross lbs	Position	Pieces	Cast-No.	Heat-No.	
1	185,039	22,441	22,441	1,527	14	1000,897	266,759	1267,657		14	9030	1309359	
Total:				1,527	14	1000.897	266.759	1267.657		14			

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.
Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 162/19
Cert No. / No. du certificat:

Bestellnummer: P0039459
Order No. / No. de commande

Auftrag: 71013/100
Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst
Product / Produit: Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11A; Spezifikation Dart Aerospace D6003

Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/Etat

Abmessung 3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH
Size / Dimension D6008-180

Kennzeichnung ALUnna - Cert No. 162/19 - AMS-QQ-A-200/11(A) - 3.250" OD x 0.438" WT - 7075 - T 6511 - Cast No. 9030 - Heat Lot No. 1309359 -
Marking/Marquage: ALUnna Order Confirmation No.71013/100 - P.O. NUMBER 039459

Lieferung pcs. lbs **Country of Manufacture: Germany**
Delivered Material / Matériel délivré: 14 1001 Products are in accordance with applicable RoHS

1. Chemische Analyse Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni	Na
Charge/ min.			1,2		2,1	0,18	5,1							
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20						
9030/18	0,116	0,174	1,760	0,114	2,429	0,190	5,585	0,050	0,0025	0,0298	0,0001	0,0020	0,0060	0,0001

Hydrogen content: 0,14 **ccm/100 g Al** Elements without indication < 0,01 % **country of melt manufacturer: Germany**

2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Cast No.
	77,0	66,0	7,0			
1	84,5	76,3	11,5			9030
2	84,3	75,7	11,1			

RMS 25 - max. 9,8 µ"

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order
Resultats: Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

mergardtri

18.01.2019

Certified acc. DIN EN ISO 9001:2015 and DIN EN 9100:2016
valid until 2019-11-10

TÜV Nord - Cert.- Req. No.: 44 100 131576 and 44 117 131576

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

ALUnna

Abnahmebeauftragter

[illegible]

EXTRUSION INSPECTION SHEET



		SIDE A						SIDE B						Measurement unit	
TUBE #	TOTAL LENGTH	DIA						DIA						INSIDE DIA	wall th measure
		R1	R2					R1	R2						
DWG															
1		3.248	3.245	-0.002	-0.005	3.247	-0.003	3.249	3.249	-0.001	-0.001	3.249	-0.001		0.433
2		3.247	3.265	-0.003	0.015	3.256	0.006	3.244	3.285	-0.006	0.035	3.265	0.015		0.437
3		3.243	3.245	-0.007	-0.005	3.244	-0.006	3.248	3.252	-0.002	0.002	3.250	0.000		0.428
4		3.245	3.275	-0.005	0.025	3.260	0.010	3.246	3.275	-0.004	0.025	3.261	0.011		0.424
5		3.240	3.230	-0.010	-0.020	3.235	-0.015	3.238	3.235	-0.012	-0.015	3.237	-0.014		0.430
6	3.252 3.252	3.295	3.246	0.045	-0.004	3.271	0.021	3.250 3.253	3.252 3.253	0.000	0.002	3.251	0.001		0.433
7		3.245	3.247	-0.005	-0.003	3.246	-0.004	3.244	3.238	-0.006	-0.012	3.241	-0.009		0.429
8		3.244	3.247	-0.006	-0.003	3.246	-0.005	3.246	3.244	-0.004	-0.006	3.245	-0.005		0.432
9		3.235	3.244	-0.015	-0.006	3.240	-0.011	3.252	3.247	0.002	-0.003	3.250	-0.001		0.429
10		3.244	3.244	-0.006	-0.006	3.244	-0.006	3.244	3.243	-0.006	-0.007	3.244	-0.006		0.419
11		3.245	3.242	-0.005	-0.008	3.244	-0.006	3.243	3.245	-0.007	-0.005	3.244	-0.006		0.415
12		3.255	3.245	0.005	-0.005	3.250	0.000	3.249	3.249	-0.001	-0.001	3.249	-0.001		0.419
13		3.242	3.240	-0.008	-0.010	3.241	-0.009	3.247	3.249	-0.003	-0.001	3.248	-0.002		0.436
14		3.245	3.245	-0.005	-0.005	3.245	-0.005	3.250	3.246	0.000	-0.004	3.248	-0.002		0.453
15															
16															
PART #		P/O#													

EXTRUSION INSPECTION SHEET



Inches	Symbol	"	ULTRA SONIC MEASUREMENTS				
Thickness d w/vern	Strightness at 12" in middle	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4
		N/A	Middle	N/A			
0.452		N/A	Middle				
0.450		N/A	Middle				
0.460		N/A	Middle				
0.441		N/A	Middle				
0.436		N/A	Middle				
0.460		N/A	Middle				
0.448		N/A	Middle				
0.448		N/A	Middle				
0.453		N/A	Middle				
0.453		N/A	Middle				
0.451		N/A	Middle				
0.458		N/A	Middle				
0.443		N/A	Middle				
0.458		N/A	Middle				
		N/A	Middle				
		N/A	Middle				
BATCH #			Notes:				

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6008-180
DATE: 14/05/09

PO / BATCH NO.: P0039459/S172172

MATERIAL CERT REC'D: Yes
QUANTITY RECEIVED: 14x
QUANTITY INSPECTED: 14x
QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.435"
THICKNESS RECEIVED: 0.437"
SHEET SIZE ORDERED: —
SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N	
CORRECT FINISH	☒ Y N	
CORROSION	Y ☒ N	
CORRECT GRAIN DIRECTION	☒ Y N	
CORRECT MATERIAL PER M-DRAWING	☒ Y N	AMS QQ-A-200/11
CORRECT THICKNESS	☒ Y N	
PHOTO REQUIRED	Y ☒ N	
CORRECT REF # TO LINK CERT	☒ Y N	P0039459
CORRECT MATERIAL IDENTIFICATION	☒ Y N	
CORRECT M# ON THE MATERIAL	☒ Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS 61
DATE: MAY 04 2019

SIGNED OFF BY: _____
DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in